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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,761	11/03/2000	Sang-Seog Kang	IK-011	4364
34610	7590	06/04/2004	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			ABDULSELAM, ABBAS I	
			ART UNIT	PAPER NUMBER
			2674	16

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/704,761

Applicant(s)

KANG, SANG-SEOG

Examiner

Abbas I Abdulsalam

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/05/04 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Morita et al. (USPN 6647133).

Regarding claim 1, the admitted prior art teaches a touch sensing circuit (Fig. 1) including a touch sensor (5) for outputting a sense signal in response to a user's touch, and a transistor Q1 designed to perform a switching operation in order to generate a signal that is differently determined depending on a switching period of time. However, The prior art does not teach "a compensator which produces an independent temperature reference signal

Art Unit: 2674

corresponding to a variation in temperature of the glass touch sensing circuit, compares an output signal from the switch proportional to the touch sensor signal with that of the independent temperature reference signal and outputs a wave –shaped signal in accordance with a compared result; and a touch detector responsive to an output signal from the compensator for detecting whether the user touched the touch screen.”

Morita on the other hand teaches a discriminator unit (24), a temperature sensor (81), a detector unit (23) and a reference value setting unit (25) such that in response to an output signal from temperature sensor (81), the reference voltage from a reference value setting unit (25), which is used in discriminator unit (24) varies to correct for temperature characteristics of the detector diode in detector unit (23). Morita further discloses that detector unit (23) outputs waveform shaped by a filter, and indicates that the discriminator unit (24) also determines from the amplitude of the detected signal whether a touch sensor is touched by a finger. See Fig. 15 and col. 9, lines 24-37.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the admitted prior art to incorporate Morita's a discriminator unit (25) as illustrated in Fig. 15. One would have been motivated in view of the suggestion in Morita that the discriminator unit (24) as configured in Fig. 15 is functionally equivalent to the desired compensator. The use of a discriminator unit (24) helps function a fingerprint identification device as taught by Morita.

Regarding claim 2 Morita teaches a fingerprint identification device (Fig. 1) including a processing unit (7), and an imaging element (6) with respect to charge-coupled device. See col. 1, lines 19-30.

Art Unit: 2674

Regarding claims 3-4, Morita teaches that the discriminator unit (24) determines from the amplitude of the detected signal whether the touch sensor 13 is touched by a finger, and reference value setting unit (25) sets the reference impedance value to discriminate the human touch to the electrode unit 22. See col. 4, lines 48-54.

Regarding claims 5 and 9, it would have been obvious to modify the admitted prior art (Fig. 1) to incorporate Morita's a discriminator unit (25) as illustrated in Fig. 15. Moreover, it would have been obvious the modification would have resulted in the circuit (Fig. 1) to incorporate appropriate logical gates and transistors.

Regarding claim 6, Morita teaches a temperature sensor (92) as shown in Fig. 18.

Regarding claim 7, Morita teaches that the discriminator unit (24) comprises comparator (42), and a 5-volt power source being supplied to the output side of the comparator (42) through a pull-up resistor 43. See col. 7, lines 22-24.

Regarding claim 8, Morita teaches discriminator unit (24), which comprises, and the comparator can be a transistor. See col. 7, lines 55-57.

4. Claims 10-23 are rejected under 35 U.S.C. 103(a) as being unpatentable Morita et al. (USPN 6647133).

Regarding claims 10 and 18, Morita teaches a fingerprint identification device (11) having a fingerprint identification unit (12), a touch sensor (13) to detect the touch of a human finger, and an output unit (14) which in turn outputs a control signal to a processing unit. See Fig. 2. Morita does not specifically teach a controller which process the signal from the touch

Art Unit: 2674

sensor based on an independent temperature reference signal corresponding to a variation in temperature to generate a touch detection signal. However, Morita teaches in another embodiment as shown in Fig. 15 a discriminator unit (24), a temperature sensor (81), a detector unit (23) and a reference value setting unit (25) such that in response to an output signal from temperature sensor (81), the reference voltage from a reference value setting unit (25), which is used in discriminator unit (24) varies to correct for temperature characteristics of the detector diode in detector unit (23)

Therefore, It would have been obvious to utilize Morita's discriminator unit (24), CPU as illustrated in Fig. 15 for the purpose of offsetting temperature variations in the output. One would have been motivated in view of Morita that the discriminator unit (24) along with temperature sensor (81) as configured in Fig. 15 is functionally equivalent to the desired controller.

Furthermore, Morita teaches as shown in (Fig .19) a touch sensor (13), which utilizes a heater (96) in electrode unit 22, electrodes (21a) and (21b) being formed on top of heater (96) such that the temperature of electrodes (21a, 21b) are kept constant by temperature switch (97) See col. 10, lines 1-9. It would have been obvious to utilize Morita's switch (97) the purpose of comparing temperature differences at two different states.

Regarding claim 11, Morita teaches the temperature of electrodes (21a, 21b) is kept constant by temperature switch (97).

Regarding claims, Morita 12 and 19, a touch sensor (13) comprises an oscillator unit (20), which generates and emits a high-frequency signal (12). See fig. 3, Morita also teaches that to compensate for the temperature characteristics of the diode in detector unit (20), a temperature

Art Unit: 2674

sensor (92) and an automatic gain control circuit 91 are provided. See Fig. 17. Morita also teaches a discriminator unit determines whether the human finger is in contact with the electrode unit by comparing the output signal from the detector unit with a predetermined reference value (see the abstract).

Regarding claims 14-17, Morita teaches a reference value-setting unit (25). See Fig. 15. Further Morita teaches that reference value (voltage) can be adjusted by changing the value of two divider resistors (44, 45). See Fig. 7.

Regarding claims 13 and 20-21, Morita teaches that the discriminator unit (24) comprises comparator (42), and a 5-volt power source being supplied to the output side of the comparator (42) through a pull-up resistor 43. See col. 7, lines 22-24. Morita also teaches a discriminator unit determines whether the human finger is in contact with the electrode unit by comparing the output signal from the detector unit with a predetermined reference value (see the abstract).

Regarding claim 22, Morita teaches a temperature sensor (92) as shown in Fig. 18.

Regarding claim 23, it would have been obvious to modify the admitted prior art (Fig. 1) to incorporate Morita's a discriminator unit (25) as illustrated in Fig. 15. Moreover, it would have been obvious the modification would have resulted in the circuit (Fig. 1) to incorporate appropriate logical gates and transistors.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following arts are cited for further reference.

U.S. Pat. No. 5,465,091 to Nishino et al.

U.S. Pat. No. 6,630,929 to Adler et al.

Art Unit: 2674

6. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

Art Unit 2674

May 28, 2004


XIAO WU
PRIMARY EXAMINER